



Exclusive, all-ways pedestrian crossing

Definition

Also known as a “pedestrian scramble” or “Barnes Dance,” the all-way pedestrian crossing is an intersection at which the signal cycle includes a phase in which vehicular traffic is stopped in all directions, and pedestrians can cross in any direction/on any leg, including diagonally.

Objective

To reduce or eliminate conflicts between vehicles and pedestrians, and simultaneously, to allow intersections to operate more efficiently when large volumes of pedestrians prevent vehicles from making turns.

Advantage

Can significantly reduce pedestrian crashes at intersections with high pedestrian volumes and high volumes of turning vehicles.

Can enhance overall efficiency of intersection (again, at intersections with high pedestrian volumes).

Low-cost (if intersection is already signalized).

Can be implemented where other solutions (road-widening, new signals, etc.) are impossible (lack of ROW) or infeasible (high cost).

Functions best at intersections with large volumes of turning traffic and large numbers of pedestrian-vehicle conflicts arising from turns.

Challenge

Compliance can be low since pedestrians must wait through two or more vehicle phases, which can reduce safety benefits.

Understanding of the purpose and the operation of this type of intersection signalization can be difficult for both pedestrians and motorists. As a result, adequate signage and pavement markings must be provided, along with educational outreach program.

Can be confusing for pedestrians with visual impairments.

May eliminate the ability to synchronize timing with adjacent traffic signals.

Resources

FHWA, Highway History — Where was the first Walk/Don't Walk sign installed, Addendum: The Barnes Dance <http://www.fhwa.dot.gov/infrastructure/barnes.cfm/>.

StreetsWiki: Pedestrian Scramble <http://streetswiki.wikispaces.com/Pedestrian+Scramble>.

Wikipedia: Pedestrian scramble http://en.wikipedia.org/wiki/Pedestrian_scramble.

FHWA Report — Pedestrian Signalization Alternatives (1985) <http://katana.hsrrc.unc.edu/cms/downloads/PedestrianSignalizationAlternatives1985.pdf>.

Atlantic Cities — A Brief History of the Barnes Dance (Dec. 18, 2012) <http://www.theatlanticcities.com/commute/2012/12/brief-history-barnes-dance/4189/>.

Oakland Chinatown Pedestrian Scramble: An Evaluation (2003) <http://escholarship.org/uc/item/3fh5q4dk#page-1>.



Images (clockwise from main image):

Example of an all-ways pedestrian crossing.
Source: Zolk, Flickr.

Additional examples:
Sources: thisisbossi, Flickr; Dan Burden; Ian Muttoo, Flickr.